depositing an inorganic silicon oxide layer on the substrate;

sequentially depositing an organic silicon oxide layer of a low dielectric constant on the inorganic silicon oxide layer;

forming a partial trench with a predetermined depth in the organic silicon oxide layer;

oxygenating an inner wall of the partial trench; and

forming a trench by etching the partial trench.

2. (Once amended) The method of claim 1 comprising:

depositing a conductive layer to fill the trench; and

removing a portion of the conductive layer stacked on a top surface of the organic silicon oxide layer by chemical-mechanical polishing (CMP).

3. (Once amended) The method of claim 1 comprising:

forming a photo resist pattern exposing a predetermined portion of a bottom of the trench after forming the trench; and

forming a contact hole by etching the inorganic silicon oxide layer with the photo resist pattern.

4. (Once amended) The method of claim 1 wherein the oxygenation includes ashing the photo resist pattern formed during the patterning step.

5. (Once amended) The method of claim 1 wherein the oxygenation is performed at a region having a thickness less than 1000 Å in an exposed region of the organic silicon oxide layer.

6. (Once amended) A method for fabricating a semiconductor device, comprising:

depositing an inorganic silicon oxide layer on a substrate;

sequentially depositing an organic silicon oxide layer of a low dielectric constant on the inorganic silicon oxide layer;

forming a partial trench with a predetermined depth in the organic silicon oxide layer;

oxygenating an inner wall of the partial trench; and

forming a trench by etching the partial trench with hydrofluoric acid (HF) for about seconds using a buffered oxide etchant (BOE).

A2 cont.

7. (Once amended) A semiconductor device, comprising:

a substrate having a conductive region formed thereon;

an inorganic silicon oxide layer formed on the substrate to cover at least a portion of the conductive region;

an organic silicon oxide layer of a low dielectric constant formed on the inorganic silicon oxide layer;

a conductive interconnection formed on the organic silicon oxide layer; and

a contact plug penetrating the inorganic silicon oxide layer in a predetermined portion for electrically connecting the conductive interconnection to the conductive region.

8. (Once amended) The semiconductor device of claim 7 wherein the contact plug and the conductive interconnection are simultaneously formed.

9. (Once amended) The semiconductor device of claim 8 wherein the contact plug and the conductive interconnection are made of copper.

10. (Once amended) The semiconductor device of claim 7 wherein the organic silicon oxide layer is a silicon oxi-carbonate (SiOC) layer of silsesquioxane series containing carbon.

11. (Once amended) The semiconductor device of claim 10 wherein the organic silicon oxide layer is formed by chemical vapor deposition (CVD).

Add the following new claims.

12. (New) The method of claim 1 wherein forming the partial trench includes patterning the partial trench.

13. (New) The method of claim 1 wherein forming a trench includes etching the partial trench with hydrofluoric acid (HF).

14. (New) The semiconductor device of claim 11 wherein the inorganic silicon oxide layer is made using a hydrogen silsesquioxane (HSSQ) precursor

15. (New) The semiconductor device of claim 12 wherein the inorganic silicon oxide layer is formed by spin on glass (SOG) or chemical vapor deposition (CVD).